



## Certificate of Achievement

# Matthias Giger

has completed the following course:

### **BATTERY STORAGE: UNDERSTANDING THE BATTERY REVOLUTION** EIT INNOENERGY

This course explored the applications of energy storage in different sectors including transport and power, examined the benefits of using battery energy storage for industrial products, like in underground mining and discovered the battery production supply chain.

4 weeks, 3 hours per week



**Dimitra Maleka**

Digital Learning Manager at InnoEnergy, Battery Storage Specialist  
EIT InnoEnergy



**InnoEnergy**  
Knowledge Innovation Community

The person named on this certificate has completed the activities in the attached transcript. For more information about Certificates of Achievement and the effort required to become eligible, visit [futurelearn.com/proof-of-learning/certificate-of-achievement](https://futurelearn.com/proof-of-learning/certificate-of-achievement).

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#### **STUDY REQUIREMENT**

4 weeks, 3 hours per week

#### **LEARNING OUTCOMES**

- Apply knowledge of current and future developments in energy storage and how they can affect the power and transportation sectors
- Describe the supply chain in large-scale lithium-ion battery production and assess whether the resources are enough to sustain the energy transition
- Develop new knowledge on the Li-ion battery industry
- Identify financial benefits of battery energy storage solutions in underground mining
- Reflect on the relation between underground mining and its environmental impact
- Describe the current worldwide electric vehicle market, including the price and range development, major players in EV battery market and current evolution (growth) in EV manufacturing
- Identify different types of EV charging and evaluate growth trends of European charging infrastructure
- Describe new business models based on EV battery as energy storage solution (vehicle-to-home and vehicle-to-grid scenarios)

#### **SYLLABUS**

- The importance of energy storage

- Needs for energy storage and storage alternatives
- Energy storage in the power and transportation sectors
- Energy storage and our energy future
- Large scale lithium-ion battery production
- Supply chain and battery manufacturing process of lithium-ion batteries
- Application of battery storage in underground mining
- The business case of electrification for underground mining
- Environmental considerations of battery-powered machines for underground mining
- Current electric vehicle market
- Charging infrastructure
- New electric vehicle business models